AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below. The language being added is underlined ("__") and the language being deleted contains either a strikethrough ("——") or is enclosed by double brackets ("[[ ]]").

1. (Currently Amended) A method for reducing interference due to handshake tones in the frequency domain in a communication system, the method comprising the steps of:

receiving an input signal X_t in the frequency domain at bin q and time-symbol t, wherein the input signal [[has]] comprises a short correlation time component and a long correlation time component, wherein the long correlation time component corresponds to a disturbance signal due to handshake tones;

attaining near zero correlation for the short correlation time component in the received input signal, ~~wherein attaining near zero correlation for the short correlation time component comprises generating a delayed signal~~ by delaying the input signal by a time-symbol value N, wherein N is an integer such that the generated delayed signal is X_{t-N};

estimating the disturbance signal by generating a prediction signal with long correlation properties based at least in part on the delayed signal;

comparing the input signal and the prediction signal; and

correlating the received input signal to the disturbance signal by reducing a variance between the received input signal and the prediction signal,

wherein the steps are performed in a transceiver within the communication system.

2. (Previously Presented) The method of claim 1, wherein the input signal is a corrupted frequency domain Asymmetric Digital Subscriber Line (ADSL) signal at a predetermined bin of a predetermined time-symbol.

3. (Canceled)

4. (Previously Presented) The method of claim 1, wherein the time-symbol value N is one symbol, wherein the one symbol represents approximately 512 time domain samples.

5. (Canceled)

6. (Previously Presented) The method of claim 1, wherein near-end crosstalk (NEXT) interferences due to handshake tones are reduced.

7. (Previously Presented) The method of claim 1, wherein far-end crosstalk (FEXT) interferences due to handshake tones are reduced.

8. (Previously Presented) The method of claim 1, wherein the steps are performed at a customer premises equipment (CPE) end.

9. (Previously Presented) The method of claim 1, wherein the steps are performed at a central office (CO) end.

10. (Original) The method of claim 1, wherein the prediction signal is generated by a causal filter.

11. (Original) The method of claim 1, wherein the causal filter uses historical data to generate the prediction signal.

12. (Original) The method of claim 1, wherein the causal filter uses at least one past disturbance signal to generate the prediction signal.

13. (Previously Presented) The method of claim 1, wherein the step of reducing is performed by at a least mean square algorithm.

14-28. (Canceled)

29. (Currently Amended) A system for reducing interference due to handshake tones in the frequency domain, the system comprising:

an input for receiving an input signal in the frequency domain having a short correlation time component and a long correlation time component, wherein the long correlation time component corresponds to a disturbance signal due to handshake tones;

a delay module for generating a delayed signal by delaying the input signal by a delay value equal to an upper bound of the short correlation component; and

a filter for generating a prediction signal based at least in part on the delayed signal to estimate the disturbance signal;

wherein the input signal and the prediction signal are compared and a variance between the input signal and the prediction signal is reduced.

30. (Previously Presented) The system of claim 29, wherein the input signal is a corrupted frequency domain Asymmetric Digital Subscriber Line (ADSL) signal at a predetermined bin of a predetermined time-symbol.

31. (Original) The system of claim 29, wherein the delay value is a time-symbol value.

32. (Original) The system of claim 29, wherein the delay value is one symbol, wherein the one symbol represents approximately 512 time domain samples.

33. (Original) The system of claim 29, wherein the delay value comprises a predetermined time symbol value.

34. (Previously Presented) The system of claim 29, wherein near-end crosstalk (NEXT) interferences due to handshake tones are reduced.

35. (Previously Presented) The system of claim 29, wherein far-end crosstalk (FEXT) interferences due to handshake tones are reduced.

36. (Previously Presented) The system of claim 29, wherein the system resides at a customer premises equipment (CPE) end.

37. (Previously Presented) The system of claim 29, wherein the system resides at a central office (CO) end.

38. (Original) The system of claim 29, wherein the prediction signal is generated by a causal filter.

39. (Original) The system of claim 38, wherein the causal filter uses historical data to generate the prediction signal.

40. (Original) The system of claim 38, wherein the causal filter uses at least one past disturbance signal to generate the prediction signal.

41. (Previously Presented) The system of claim 29, wherein the variance is reduced by a least mean square algorithm.

42. (Original) The system of claim 29, wherein the input is correlated to a disturbance signal.

43-56. (Canceled)

57. (Currently Amended) A system for reducing interference due to handshake tones in the time domain, comprising:

means for receiving an input signal in the frequency domain having a short correlation time component and a long correlation time component;

means for generating a delayed signal by delaying the input signal by a delay value, wherein the delay value is equal to a time-symbol value N, wherein N is an integer such that the generated delayed signal is X_{t-N}, wherein X_t is the input signal at bin q and time-symbol t, [[and]] wherein the value N is based on an upper bound of the short correlation time component, and wherein the long correlation time component exhibits high correlation beyond the upper bound;

means for generating a prediction signal with a high correlation value based at least in part on the delayed signal;

means for comparing the input signal and the prediction signal; and

means for reducing a variance between the input signal and the prediction signal.